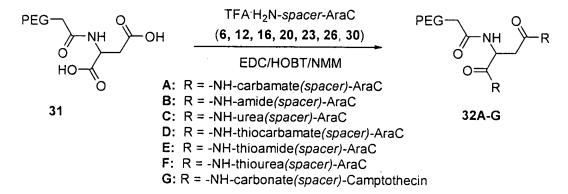
Fig. 3

Fig. 5

Fig. 6

## Fig. 7

Fig. 8



35

TFA:H<sub>2</sub>N-spacer-Drug (6, 12, 16, 20, 23, 26, 30) EDC/HOBT/NMM

PEG R OR

[R = NH-spacer-Drug]

37A-G

36

A: R = -NH-carbamate(spacer)-AraC

B: R = -NH-amide(spacer)-AraC

C: R = -NH-urea(spacer)-AraC

D: R = -NH-thiocarbamate(spacer)-AraC

E: R = -NH-thioamide(spacer)-AraC

F: R = -NH-thiourea(spacer)-AraC

G: R = -NH-carbonate(spacer)-Camptothecin

A: R = -NH-carbamate(spacer)-AraC

[R = HN-spacer-Drug]

B: R = -NH-amide(spacer)-AraC

C: R = -NH-urea(spacer)-AraC

D: R = -NH-thiocarbamate(spacer)-AraC

E: R = -NH-thioamide(spacer)-AraC

F: R = -NH-thiourea(spacer)-AraC

G: R = -NH-carbonate(spacer)-Camptothecin

47

2

46

**48A-G** [ R = HN-*spacer*-Drug]

A: R = -NH-carbamate(spacer)-AraC
B: R = -NH-amide(spacer)-AraC
C: R = -NH-urea(spacer)-AraC
D: R = -NH-thiocarbamate(spacer)-AraC
E: R = -NH-thioamide(spacer)-AraC
F: R = -NH-thiourea(spacer)-AraC

G: R = -NH-carbonate(spacer)-Camptothecin

49

[ R = NH-carbonate (spacer)-Camptothecin ]

[R = HN-carbonate(spacer)-Camptothecin]

CO2R

CO2R

 $H_2N$ 

CO<sub>2</sub>H

CO2H

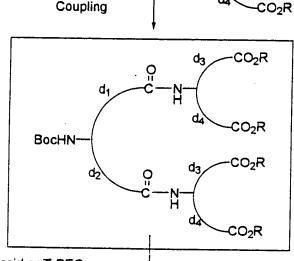
Coupling

BocHN-

R = alkyl, etc. for ester

Figure 14

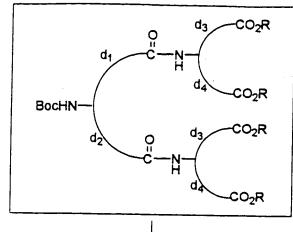
DORDEROR HEDGIA



- (1) Pegylation with PEG acid or T-PEG
- (2) Hydrolysis of the ester (or saponification)

Coupling with spacer-Drug

Figure 15



R = alkyl, etc. for ester

(1) Saponification (2) Couple with 4 
$$\times$$
 H<sub>2</sub>N  $\xrightarrow{d_5}$  CO<sub>2</sub>R  $\xrightarrow{d_5}$  CO<sub>2</sub>

- (1) Deprotection of Boc
- (2) Pegylation with PEG acid or T-PEG
- (3) Hydrolysis of the ester (or saponification)
- (4) Coupling with spacer-Drug

(1) Triphosgene, pyridine

(2) N-hydroxyphthalimide (52)

53

$$R = -HN \left( \begin{array}{c} O \\ \\ \end{array} \right) \left( \begin{array}{c} O \\ \\ \end{array} \right) NH-AraC$$

TFA/DCM

TFA 
$$\cdot$$
H<sub>2</sub>N

62

Leu-AraC

43 or 55, EDC, HOBT, NMM

PEG

NH

R

R

64 (from 55)

 $R = -HN$ 
 $R = -HN$